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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,678	04/19/2001	Augustus K. Uht	URI.5474	8152

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EXAMINER

LI, AIMEE J

ART UNIT PAPER NUMBER

2183

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/838,678

Applicant(s)

UHT ET AL.

Examiner

Aimee J. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005 and 13 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 31 March 2005.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-8 and new claims 9-12 have been considered. New claims 9-12 have been added as per Applicant's request.

#### ***Papers Submitted***

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: RCE as received on 01 March 2005; Extension of Time 1 month as received on 01 March 2005; IDS as received on 31 March 2005; and Supplemental Amendment as received on 13 April 2005.

#### ***Information Disclosure Statement***

3. The information disclosure statement filed 31 March 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Specifically, the Examiner did not consider
  - a. Cite No. 40 – Krewell, "IntellQ01 Earnings Plummet," *Cahners Microprocessor*, vol. 15, no. 5 May 2001, 1 page
  - b. Cite No. 51 – Martin et al., "Timestamp snooping: An approach for extending smps," in *Proceedings of the International Conference on Architecture Suport (sic) for Programming Languages and Operating Systems*, pp. 25-34, November 2000.
4. Copies of these citations were not found in the file of record.

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5. In addition, the Examiner struck through Cite No. 39 Klauser et al., since this reference was cited and provided by the Examiner in a previous Office Action prior to submission of the IDS.

***Claim Rejections - 35 USC § 102***

6. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Klauser et al., *Dynamic Hammock Predication for Non-predicated Instruction Set Architectures*.

7. Regarding claims 1, 5, and 9, taking claim 1 as exemplary, Klauser has taught a computing device that provides hardware conversion of control flow in machine code that is executable by said computing device, said machine code also being executable by a target computing device different from said computing device, (see Col.2 lines 5-10), said computing device comprising:

- c. Predicate assignment means for detecting the beginning and end of a branch domain of said machine code (see Col.3 lines 13-36 and Col.4 lines 12-20), operation of said predicate assignment means being invisible to instruction set architecture and thereby invisible to a user (see Col.2 lines 3-5),
- d. Predicate use means for realizing the beginning and the end of said branch domain at execution time (see Col.2 lines 5-10), and for selectively enabling and disabling machine code within said branch domain during program execution (see Col.4 lines 12-28), operation of said predicate use means being invisible to instruction set architecture and thereby invisible to a user (see Col.2 lines 3-5),
- e. Wherein said machine code is executable by said computing device without recompiling (see Col.2 lines 3-5).

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8. Claims 5 and 9 are nearly identical to claim 1, differing in the limitations of claim 5 being comprised within a method and without the limitation in bullet (c) and the limitations of claim 9 being comprised within a data processor with logic, but encompassing the same scope as claim 1. Therefore, claims 5 and 9 are rejected for the same reasons as claim 1.

9. Regarding claims 2, 6, and 10, taking claim 2 as exemplary, Klauser has taught the computing device according to claim 1, wherein said predicate assignment means includes a tracking buffer (see "rename table" of Fig.3) comprising dedicated storage to store branch information in order to make said predicate assignments (see Col.5 lines 1-26). Here, the rename table contains multiple entries for every register, which are used to make predicate assignments.

10. Claims 6 and 10 are nearly identical to claim 2, differing in its parent claim, but encompassing the same scope as claim 2. Therefore, claims 6 and 10 are rejected for the same reasons as claim 2.

11. Regarding claims 3 and 7, taking claim 3 as exemplary, Klauser has taught the computing device according to claim 1, wherein said predicate assignment means is operative to assign a canceling predicate to said branch domain in order to delineate said branch domain (see Col. 7 lines 8-28).

12. Claim 7 is nearly identical to claim 3, differing in its parent claim, but encompassing the same scope as claim 3. Therefore, claim 7 is rejected for the same reasons as claim 3. Regarding claims 4, 8, and 12, taking claim 4 as exemplary, Klauser has taught the computing device according to claim 3, wherein said predicate use means further includes dedicated registers for said machine code in order to effect arbitrary control flow, said branch domain including at least

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a disjoint branch domain, a nested branch domain, overlapped branch domains, or a combination of said branch domains (see Col.9, Section 4.1).

13. Claims 8 and 12 are nearly identical to claim 4, differing in its parent claim, but encompassing the same scope as claim 4. Therefore, claims 8 and 12 are rejected for the same reasons as claim 4.

14. Regarding claim 11, Klauser has taught the data processor of claim 9 wherein said domain information comprises an address of a predicate that corresponds to a branch, an address of a canceling predicate that corresponds to said branch, and a target address of said branch (see Col. 7 lines 8-28).

#### *Response to Arguments*

15. Applicant's arguments filed 01 March 2005 have been fully considered but they are not persuasive. Applicant argues in essence on pages 5-7

Thus, in order to use the Klauser et al., computing device, the source code of an application must be recompiled to produce machine code corresponding to their device. In stark contrast, a computing device according to the present invention does not require re-compiling, and this is emphasized in the claims as amended.

16. This has not been found persuasive. The limitation being argued states "wherein said machine code is executable by said computing device without recompiling (Claim 1)." The passage being referred to by Applicant's in Klauser states

...we identify branches that can benefit from predicated executing using information provided by compiler or link-time transformations. During

execution, dynamic predication converts the instruction sequences for both paths... (Klauser column 2, lines 5-9)

17. Klauser has not stated that the source code must be recompiled. The source code is being compiled once, and, during this single compile when the source code is transformed by the compiler into machine code, the branches are marked by Klauser. There is no indication in Klauser that the code must be compiled a second time after the branches have been marked. Therefore, the source code of Klauser is compiled one single time and the limitation in the claim where the marching code is executable without recompiling is met.

18. As a side note, the Examiner would note that the claim limitation relied upon by applicants can only be found within claims 1 and 9 and cannot be found within the limitations of claim 8. None of the arguments regarding the nature of whether Klauser requires recompiling are applicable to claims 5-8, since there is no limitation within claims 5-8 requiring that the instructions not be recompiled. Since the Examiner cannot find any arguments regarding the amendments made to claims 5-8, the Examiner can reiterate the rejection above regarding claims 5-8

### *Conclusion*

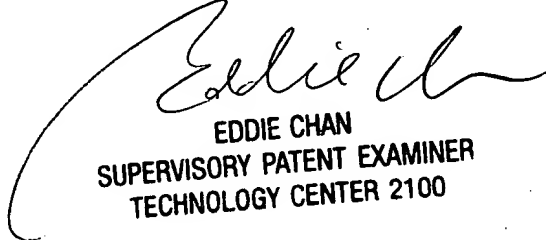
19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J. Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:30am-5:00pm.

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL  
Aimee J. Li  
23 June 2005



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